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NORTRONICS A DIVISION OF NORTHROP CORPORATION • ELECTRONIC SYSTEMS & EQUIPMENT DEPT

MONTHLY PROGRESS REPORT

Period 1 April 1964 to 1 May 1964

Title of Contract

INVESTIGATION OF PROBLEMS ASSOCIATED WITH THE DETECTION OF THE LUNAR HORIZON FROM A SPACE VEHICLE

Contract No. NAS 8-11039

7 May 1964

Prepared by

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Approved by

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NORT 63-355/10

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During April, the tenth month of this contract, the following items were accomplished:

1. The Barnes thermopile test program was finished. This program included tests of resistance measurement, time constant, frequency response, responsivity and uniformity of response across the detector face. The tests, the test results and comparison of the test results with the Barnes reported data, will be detailed in the contract final report. In general, the test results corroborated the Barnes test data.

2. The necessary electronics has been fabricated and assembled to compare the two signals from a simulated pair of thermopiles. The electronics includes the switches, modulators, amplifiers, demodulators, bandpass filters, and the holding and the quotient circuits. A schematic diagram will be included in the final report which will be finished and released in May.

   The electronic switches did not utilize the latest designed field effect transistors because delivery has yet to be made. Therefore, operation in the sub-microvolt region has not been demonstrated as yet. The newer designed desiccant-free insulated gate field effect transistor promises at least one order of magnitude improvement. Delivery from RCA of this new type transistor is expected daily.

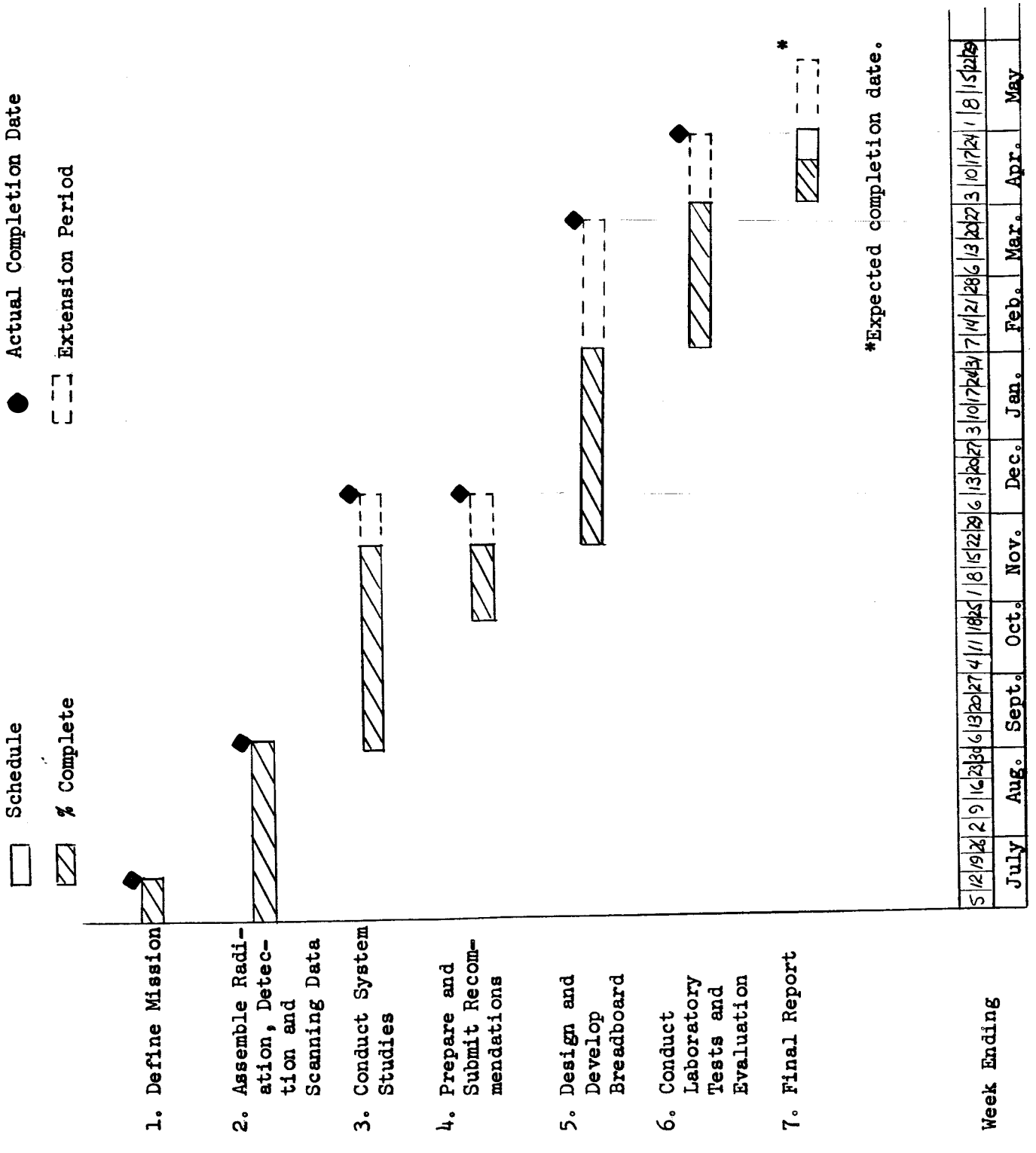
3. Preparation of the final report has been progressing during the month of April. The first draft of the final report is estimated to be approximately 80% complete. The document will be issued during May.

4. An extension of three weeks has been granted to the contract completion date. The new completion date is 21 May 1964.

   During the month of May it is anticipated that the final report will be finished and published.

   The total engineering time spent during this report period was 141 hours.

LUNAR HORIZON STUDY PROGRAM



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FORM 7 (R 9-63)